

REMARKS

Claims 1-17 and 21-29 are pending and are all rejected. Claims 1, 21 and 29 are amended herein. Reconsideration of this application in light of the below remarks is respectfully requested. Also, it is to be appreciated that while reference may be made back to certain parts of the application (*e.g.*, page numbers, line numbers, Figs., etc.), that such referencing is not to be interpreted in a limiting manner (*e.g.*, to limit the scope of the claims and/or features therein to the particular portion(s) referenced), but is instead merely done for purposes of explanation, illustration and/or ease of understanding.

I. REJECTION OF CLAIMS 1, 4-13, 15-17, 21, 23, AND 25-29 UNDER 35 U.S.C. § 103(a)

Claims 1, 4-7, 9-13, 15-17, 21, 23, and 25-29 stand rejected and claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable in view of Benveniste (USPN 5,554,857) in view of Vahrenkamp (USPN 4,315,153). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claim 1 provides a mass analyzer comprised of *a first permanent magnet and a second permanent magnet and without electromagnets* that generates a substantially uniform magnetic field **but not an electric field**. Similarly, independent claim 21 provides generating a magnetic field from **only a first permanent magnet and a second permanent magnet and not generating an electric field**. Likewise, independent claim 29 provides a mass analyzer comprised of *a first permanent magnet and a second permanent magnet* that generates a substantially uniform magnetic field **but not an electric field**.

It is respectfully submitted that the combination of references cited do not teach these features. For example, instead of permanent magnets, Benveniste discloses ***electromagnets***. In particular, the electromagnets in Benveniste have coils and are specifically employed to provide flexibility that allows a field to be adjusted (*See, e.g.*, Col. 2, lines 35-40). For example, the reference explicitly states:

The strength of both the quadrupole and dipole fields are adjusted by a controller electrically coupled to the primary and additional current carrying coils of said magnet.

A magnet constructed in accordance with the invention adds flexibility to the implanter. This flexibility allows the implanter to be used with different species ions at low energy implant levels. (Col. 2, lines 47-53).

Therefore Benveniste does not provide for permanent magnets as claimed.

Vahrenkamp teaches potential plates 24, 26, 28, 30 (Col. 3, lines 25-55); 64, 66, 68, 70 (Col. 4, line 50 – Col. 5, line 23); or 94, 96, 98, 100 (Col. 5, lines 30-35) of an ExB separator 20, 60 or 90, respectively, that can be biased to different voltages to develop different electric fields to select a desired mass species (Col. 3, lines 38-39). While Vahrenkamp does disclose that a permanent magnet structure may be included to provide a uniform magnetic field region (Col. 3, lines 6-19), the ExB separator must employ an electric field for tuning the separator for different species. Vahrenkamp simply does not disclose a mass analyzer that comprises permanent magnets and that does NOT generate an electric field. Vahrenkamp, instead, provides details about the ExB separator that uses an electric field. In fact, Vahrenkamp specifically states that it is directed to the ExB separator for analyzing ion beams (Col. 1, lines 66-68). As such, the combination of references does not result in the claimed invention. Further, based on use of the electric field for tuning, and Benveniste stated desire to provide flexibility in the mass analyzer, one of ordinary skill in the art would not be motivated to modify Vahrenkamp to merely comprise permanent magnets and not generate an electric field because this would render the combination unsuitable for its intended purpose.

It is respectfully submitted, therefore, that independent claims 1, 21 and 29 are non-obvious over the cited art. The other above mentioned rejected claims depend from claims 1, 21 or 29 and thus are also non-obvious over the cited art.

Withdrawal of this rejection is therefore respectfully requested.

II. REJECTION OF CLAIMS 2 AND 22 UNDER 35 U.S.C. § 103

Claims 2 and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857) in view of Vahrenkamp (4,315,153). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 2 depends from claim 1 and claim 22 depends from claim 21. Claims 1 and 21 are believed to be non-obvious over Benveniste in view of Vahrenkamp for the reasons set forth above. Accordingly, claims 2 and 22 are likewise believed to be non-obvious over the cited art.

Withdrawal of this rejection is therefore respectfully requested.

III. REJECTION OF CLAIM 3 UNDER 35 U.S.C. § 103

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857) and Vahrenkamp (USPN 4,315,153) and further in view of Horsky et al. (US Patent Application Publication No. 2004/0104682). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 3 depends from claim 1. Horsky et al. fail to make up for the aforementioned deficiencies of Benveniste and Vahrenkamp. It is thus respectfully submitted that claim 3 is allowable over the references cited.

Withdrawal of this rejection is therefore respectfully requested.

IV. REJECTION OF CLAIMS 14 AND 24 UNDER 35 U.S.C. § 103

Claims 14 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Benveniste (5,554,857) in view of Vahrenkamp (USPN 4,315,153). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 14 depends from claim 1 and claim 24 depends from claim 21. Claims 1 and 21 are believed to be non-obvious over Benveniste in view of Vahrenkamp for the reasons set forth above. Accordingly, claims 14 and 24 are likewise believed to be non-obvious over the cited art.

Withdrawal of this rejection is therefore respectfully requested.

V. CONCLUSION

For at least the above reasons, pending claims currently under consideration are believed to be in condition for allowance and notice thereof is respectfully requested.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

Should any fees be due as a result of the filing of this response, the Commissioner is hereby authorized to charge the Deposit Account Number 50-1733, EATNP139US.

Respectfully submitted,
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